

What is claimed is:

1. A method of starting a brushless DC motor including an armature coil in a stator and field magnets in a rotor, comprising:

supplying a starting current for said
5 armature coil while said rotor is in a stationary state;

measuring an induced voltage induced in
said armature coil by rotation of said rotor
wherein said rotation is caused by said starting
10 current; and

supplying a drive current for said armature
coil in response to said induced voltage.

2. The method according to claim 1, wherein
said supplying said drive current includes:

determining a position of said rotor based
on said induced voltage, and

5 deciding said drive current based on said
position.

3. The method according to claim 1, wherein
said measuring is executed after said supplying
said starting current.

4. The method according to claim 1, wherein
said measuring is executed during said supplying

0940731-082801
T082801-TE404560

said starting current.

5. The method according to claim 1, wherein said supplying said starting current includes:

supplying another starting current for said armature coil, and

5 supplying said starting current when said rotor is not rotated by said another starting current, and

10 said starting current and said another starting current have different waveforms each other.

6. The method according to claim 1, further comprising:

detecting a direction of said rotation; and
stopping said rotor when said direction is
5 not a desirable direction.

7. The method according to claim 1, wherein said supplying said drive current includes:

continuously supplying a first drive current for said armature coil till a speed of
5 said rotation becomes a predetermined speed, said first drive current being determined based on said induced voltage, and

supplying a second drive current for said

09940731-082801

armature coil after said continuously supplying
10 said first drive current, a current flow duration
of said second drive current being controlled
based on said speed.

8. The method according to claim 1, wherein
said supplying said drive current includes:

supplying a first drive current for said
armature coil such that said rotor is rotated
5 with a maximum torque, till a speed of said
rotation becomes a predetermined speed; and

supplying a second drive current for said
armature coil after said supplying said first
drive current, a current flow duration of said
10 second drive current being controlled based on
said speed.

9. A brushless DC motor comprising:

an armature including an armature coil;
a rotor including a plurality of field
magnets;

5 a power supply unit; and

a measuring unit, wherein said power supply
unit supplies a starting current for said
armature coil while said rotor is in a stationary
state, and

10 said measuring unit measures an induced

09940731-082801

voltage induced in said armature coil by rotation of said rotor, said rotation being caused by said starting current, and

15 said power supply unit supplies a drive current for said armature coil in response to said induced voltage.

10. The brushless DC motor according to claim 9, wherein said power supply unit determines a position of said rotor based on said induced voltage, and decides said drive current based on
5 said position.

11. The brushless DC motor according to claim 9, wherein said measuring unit measures said induced voltage after said power supply unit finishes supplying said starting current.

12. The brushless DC motor according to claim 9, wherein said measuring unit measures said induced voltage while said power supply unit supplies said starting current.

13. The brushless DC motor according to claim 9, wherein said power supply unit supplies another starting current for said armature coil, and supplies said starting current when said rotor is

09940731.082801

5 not rotated by said another starting current,
said starting current and said another starting
current having different waveforms each other.

14. The brushless DC motor according to claim 9,
wherein said power supply unit detects a
direction of said rotation, and stops supplying
said drive current when said direction is not a
5 desirable direction.

15. The brushless DC motor according to claim 9,
wherein said power supply unit continuously
supplies said drive current for said armature
coil till a speed of said rotation becomes a
5 predetermined speed, said drive current being
determined based on said induced voltage, and
said power supply unit supplies said drive
current for said armature coil, controlling a
current flow duration of said drive current based
10 on said speed after said speed becomes said
predetermined speed,

16. The brushless DC motor according to claim 9,
wherein said power supply unit supplies said
drive current for said armature coil such that
said rotor is rotated with a maximum torque, till
5 a speed of said rotation becomes a predetermined

09940731-082801
102380-13704650

speed, and

said power supply unit supplies said drive current for said armature coil after said supplying said first drive current, controlling a 10 current flow duration of said drive current based on said speed.

09940731.082801